Author Index of Volumes 207/208

Abdel Mongy, S., 482
Abell, J.S., 321, 325, 390
Abraham, M.M., 165
Ågren, J., 449
Akrim, A., 99
Alencar, F.L., 461
Ali, N., 294, 297, 300, 304, 386
Allenspach, P., 213
Amano, H., 267
Amberger, H.-D., 87
Antic-Fidancev, E., 90, 178
Antonio, M.R., 161, 444

Balkus Jr., K.J., 25
Barclay, J.A., 355, 366
Beiter, T.A., 372
Beitz, J.V., 41, 115
Berezyuk, D.A., 285
Bernal, S., 196
Bi, Y.J., 321, 325, 390
Binnemans, K., 51
Blanco, G., 196, 201
Boatner, L.A., 165
Bodak, O.I., 285
Bolender, J.P., 55
Borsa, F., 206
Borth, R., 329
Botana, F.J., 196
Bowman, Jr., R.C., 372
Brabers, J.H.V.J., 245
Braconnier, J.J., 196
Bredl, C.D., 329
Bresinska, I., 25
Brücher, E., 20
Brück, E., 221, 245, 249
Bünzli, J.-C.G., 107
Burdick, G.W., 78
Buschow, K.H.J., 245

Calvino, J.J., 201
Cantrell, J.S., 372
Carnall, W.T., 69
Cascales, C., 178
Cauqui, M.A., 201
Ceulemans, A., 102
Chen, L.-Q., 307
Cheong, S.-W., 206
Chin, A., 386
Cho, J.H., 206
Choppin, G.R., 465
Chou, F.C., 206
Chua, M., 83
Cifredo, G.A., 201
Cockroft, N.J., 33
Cone, R.L., 69
Cordier, G., 333
Cousseins, J.C., 94, 99

de Boer, F.R., 221, 245, 249
de Sá, G.F., 457
Drulis, H., 285

Edelmann, F.T., 182
Edelstein, N., 87
Eid, M.A., 482
Ellis, T.W., 362
Ellison, A.J.G., 170
E Silva, F.R.G., 457
Eyring, L., 1, 416, 420

Fabi, P., 146
Fauth, F., 138
Fischer, P., 311, 316
Fluyt, L., 51
Foiret, V., 107
Fort, D., 325
Fukushi, K., 468
Furrer, A., 138, 213

Gal, J., 311, 316
García-Matres, E., 257
Gatica, J.M., 196
Geibel, C., 329, 333
Gérard, I., 120
Gong, M.L., 112
González, G., 20
Görller-Walrand, C., 51
Gramlich, V., 192
Gramsch, S.A., 432
Grauel, A., 329, 333
Gschneidner, Jr., K.A., 237
Güdel, H.-U., 128
Guillaume, M., 138

Hagen, C., 87
Hall, J.L., 366
Havela, L., 221, 245, 249
He, Y., 349
Hedrick, J.B., 377
Helm, L., 20
Henseleit, R., 333
Hernández-Velasco, J., 257
Hihara, T., 282
Hinaus, B.M., 115
Hirota, M., 409, 413
Hölsä, J., 65
Huang, J., 69, 115
Huang, Y.-Z., 307
Hugh Powell, D., 20
Hulliger, F., 192
Hwang, A.M.H., 390

Inoue, A., 340
Ishii, T., 263
Ishikawa, K., 468, 473
Ishiwari, A., 473

Iwamoto, K., 468
Iye, Y., 271

Jaffe, S.M., 133
Jährling, F., 329
Jayasankar, C.K., 74
Jin, L., 107
Jin, Q., 400
Jin, T., 400
Johnston, D.C., 206
Jones, M.L., 133
Jones, R.P., 69
Jorgensen, J.D., 206

Kadowaki, K., 337
Kagayama, T., 263, 267, 271, 278, 282
Kang, Z.C., 416, 420
Karppinen, M., 65
Katsura, M., 409, 413
Kauzlarich, S.M., 161, 424, 427
Kestilä, E., 65
Kimura, M., 174
Kishigami, D., 473
Kniep, R., 333
Kobayashi, K., 468
Kockelmann, W., 311, 316
Kojima, K., 282
Komatsubara, T., 271
Kooy, H.J., 78
Krämer, K., 128
Krupa, J.C., 120

Lambaerts, H., 51
Landin, S., 449
Lee, Y.-H., 440
Lee, Y.S., 241
Lei, H.Y., 112
Lemaitre-Blaise, M., 90, 178
Li, F., 393, 397
Li, J., 393, 397
Li, L., 241, 436
Li, Y.Y., 112
Liu, G.K., 69
Liu, H., 436
Liu, J., 416
Liu, W., 436
Liu, Y.-L., 83
Loewenhaupt, M., 146
Loong, C.-K., 153, 165, 170, 174
Lu, W., 397
Luo, L., 329

Macfarlane, R.M., 133
Mackenstedt, D., 189
Maestro, P., 196
Mahdy, A.A., 482

Maletta, H., 254
Malik, S.K., 237
Malta, O.L., 457
Maple, M.B., 213
Martin, P., 120
Martínez, J.L., 257
Marx, D.T., 304
Masden, J.T., 386
Masumoto, T., 340
Matos, J.R., 461
Merbach, A.E., 20
Mesot, J., 138
Metcalf, D.H., 55, 59, 62
Micskei, K., 20
Miyake, C., 477
Miyake, M., 409, 413
Moran, D.M., 62
Moret, E., 107
Môri, N., 275, 278
Morss, L.R., 432
Mydlarz, T., 290

Nada, N., 482
Naim, G., 482
Nakagawa, T., 413
Nakamura, T., 477
Nakotte, H., 221, 245, 249
Nassar, E.J., 454

O'Connor, C.J., 241
Olesch, G., 329, 333
Ônuki, Y., 271
Oomi, G., 263, 267, 271, 275, 278, 282
Ozawa, M., 174

Pérez Omil, J.A., 196, 201
Pintado, J.M., 196
Poon, S.J., 349
Porcher, P., 90, 178
Prokes, K., 245, 249

Qian, C., 87
Qian, L.-Q., 307

Radaelli, P.G., 206
Reddmann, H., 87
Rehr, A., 424
Reid, C.E., 366
Reid, M.F., 74, 78, 83
Renuka Devi, A., 74
Richardson, F.S., 55, 59, 62
Richardson, Jr., J.W., 174
Rizkalla, E.N., 465
Rodríguez-Carvajal, J., 257
Rodríguez-Izquierdo, J.M., 196, 201
Rosa, I.L.V., 454

Sáez-Puche, R., 257
Sarangi, S., 366
Schäfer, W., 311, 316
Schank, C., 329, 333
Schawlow, A.L., 133
Schenk, K.J., 107
Schultz, A.J., 206
Sechovský, V., 221, 249, 254
Sereni, J.G., 229
Serra, O.A., 454
Shao, K.-S., 406
Sheng, D., 383
Shi, H.H., 29
Shiflet, G.J., 349
Simoni, E., 120
Simon Xue, J., 161, 165, 444
Sinha, S.P., 377
Soderholm, L., 153, 161, 165, 444
Song, K., 427
Staub, U., 138
Steglich, F., 329, 333
Su, M.-Z., 406
Su, W., 436
Sumiyama, K., 267
Suski, W., 285, 290
Suzuki, K., 267
Suzuki, Y., 468, 473

Takahashi, H., 278
Takeya, H., 237
Tang, J., 241
Tanner, P.A., 83
Tegel, U., 333
Tissières, V., 20
Tong, J., 416, 420
Torgeson, D.R., 206

Urland, W., 189
Uwatoko, Y., 278

Vagizov, F.G., 285
Vaknin, D., 206
Vandenberghe, G.M., 102
Verhoeven, P., 51
Vetsch, H., 192
Vidal, H., 201

Wada, N., 337
Wagner, J., 170
Wagner, J.L., 206
Wang, B., 87
Wang, L.-Z., 307
Wang, M., 107
Wang, T., 393
Wang, X., 400
Wang, Y., 436
Wassilew, C., 329
Watson, A.D., 14
Westwood, P., 390
White, W.T., 161
Will, G., 311, 316
Wochowski, K., 285, 290
Wu, G., 397
Wu, S.L., 112
Wu, Y.-S., 440
Wung, T.-Y., 440

Xu, G., 400
Xu, X.-L., 192

Yagi, R., 271
Yang, F., 245
Yang, Y.S., 29, 112
Yen, W.M., 133
Yue, J.-J., 307

Zambon, D., 94, 99
Zapparolli, G., 454
Zarestky, J.L., 206
Zhang, S., 400
Zhang, X., 294, 297, 300
Zhao, W., 307
Zhao, Z.-X., 307
Zheng, Y., 383
Zhou, J., 406
Zinner, L.B., 461
Ziolo, J., 206
Zounani, A., 94

Subject Index of Volumes 207/208

Actinide ions
  f-state luminescence of trivalent lanthanide and actinide ions in solution, 41
Actinides
  anisotropy of magnetism in actinide and lanthanide intermetallics, 221
Activated-barium titanyl oxalate
  effect of atmosphere on decomposition of rare earth oxide-activated barium titanyl oxalate, 440
Activity coefficients
  mean molal activity coefficients of aqueous rare earth bromide solutions at 25 °C, 468
Aluminum
  synthesis and properties of aluminum-based metallic glasses containing rare earths, 349
Ammonia
  reaction of Ce with NH_3, 413
Amorphous alloys
  electrical resistance of amorphous and crystalline $CeCu_6$ under high pressure, 267
  light-metal base amorphous alloys containing lanthanide metal, 340
Antiferromagnetism
  phase diagram and phase separation in $La_{2-x}Sr_xCuO_{4+\delta}$, 206
  complex antiferromagnetic order of CeCuSn, 245
Aqueous solutions
  mean molal activity coefficients of aqueous rare earth bromide solutions at 25 °C, 468

Benzamidinate complexes
  rare earth complexes with heteroallylic ligands and their use as precursors for lanthanide-based homogeneous catalysts, 182
Binding
  complexation of lanthanide ions by diethylenetriamine-*N*,*N*′,*N*″-penta-β-propionate, 465
Black oxide
  exploring the black oxide of praseodymium, 1
Black sand deposits
  application of ICP AES to the determination of REE in Egypt's black sand deposits, 482
Bonding
  $Eu_{14}MnSb_{11}$, a novel rare earth metal Zintl compound, 424
Bonding behaviours
  the electronic properties of Ce in $CeFe_4P_{12}$, 161
Bulk modulus
  X-Ray diffraction study of $YbInCu_4$ at high pressure, 282

Carbon disulphide
  a study of platinum–dysprosium–KL zeolite reforming catalyst, 397
Catalyst
  effect of atmosphere on decomposition of rare earth oxide-activated barium titanyl oxalate, 440
Catalyst activity
  a study of platinum–dysprosium–KL zeolite reforming catalyst, 397

Ce compounds
  4f-conduction electron hybridization in ternary Ce–TM–Al compounds, 329
Ce^{IV}
  synthesis and characterization of charge-substituted garnets $YCaLnGa_5O_{12}$ (Ln = Ce, Pr, Tb), 432
CeNi
  intermediate valence state of CeNi single crystal at high pressure, 275
Cerium
  the electronic properties of Ce in $CeFe_4P_{12}$, 161
  strongly enhanced paramagnetism in $CeNi_{5-x}Ga_x$ and $LaNi_5Ga_2$, 241
  investigation of the role of Ce atoms in the $CeFe_2$ system, 297
  cerium-based polishing compounds: discovery to manufacture, 377
  the oxidation state of cerium in Ce_2MoO_6, 444
Cerium compounds
  systematics on the cerium magnetic transformations induced by alloying, 229
  complex antiferromagnetic order of CeCuSn, 245
Cerium hydride
  preparation of CeN by reaction of Ce with a N_2–H_2 mixture, 409
Cerium mononitride
  preparation of CeN by reaction of Ce with a N_2–H_2 mixture, 409
Cerium nitride
  reaction of Ce with NH_3, 413
Charge transfer
  investigation of charge transfer $O^{2-} \rightarrow Ln^{3+}$ and $F^- \rightarrow Ln^{3+}$ in LaF_3:(Ln^{3+}, O^{2-}) and YF_3:(Ln^{3+}, O^{2-}) systems, 120
Chelates
  synthesis, characterization and luminescent properties of Eu^{III} and Tb^{III} fluorescent chelates used as label in medical immunoassays, 29
Chiral $Eu(dpa)_3^{3-}$ and $Tb(dpa)_3^{3+}$ luminophores
  chirality-dependent excited-state quenching of $Eu(dpa)_3^{3-}$ and $Tb(dpa)_3^{3+}$ luminophores by diastereomeric structures of Δ-[Co(*trans*-1,2-cyclohexanediamine)$_3$]$^{3+}$ in aqueous solution, 55
Chiroptical dissymmetry factors
  the determination of chiroptical dissymmetry factors and electric- *vs.* magnetic-dipole transition amplitude ratios from circularly polarized excitation and emission measurements on racemic $Eu(dpa)_3^{3-}$ in aqueous solution, 59
Circular dichroic self-absorption
  time-resolved chiroptical luminescence spectra of UO_2^{2+} in cubic $Na[UO_2(CH_3COO)_3]$ crystals: evidence for circular dichroic self-absorption, 62
Circularly polarized excitation and emission
  the determination of chiroptical dissymmetry factors and electric- *vs.* magnetic-dipole transition amplitude ratios from circularly polarized excitation and emission measurements on racemic $Eu(dpa)_3^{3-}$ in aqueous solution, 59

Citraconate
stability constants of rare earth complexes: citraconate, mesaconate and itaconate complex species, 473
Cluster calculation
interpretation of the magnetic specific heat of oxygen deficient and doped $NdBa_2Cu_3O_x$ and $DyBa_2Cu_3O_x$ compounds, 213
CO_2 adsorption
characterization of silica dispersed lanthana by CO_2 adsorption, 201
Complexes
synthesis, spectroscopy and photophysical properties of mixed ligand complexes of europium(III) and terbium(III), 457
Concentrated Kondo effect
effect of pressure on the electrical resistivity of $CePtSi_2$, 278
4f-Conduction electron hybridization
4f-conduction electron hybridization in ternary Ce–TM–Al compounds, 329
Continuous casting
a study of the microstructure and properties of continuous casting rare earth ductile iron pipes, 383
Contrast agents
the use of gadolinium and dysprosium chelate complexes as contrast agents for magnetic resonance imaging, 14
Crossover
systematics on the cerium magnetic transformations induced by alloying, 229
Cross-relaxation mechanism
non-resonant energy transfer from the $^5D_4$ level of Tb^{3+} to the $^5D_0$ level of Eu, 83
Cryogenic
active and passive magnetic regenerators in gas/magnetic refrigerators, 355
Crystal field
comparative study of the crystal field effects in rare earth oxynitrates, 65
comparative correlation crystal field analysis of Er^{3+} ($4f^{11}$) in garnet hosts, 74
microscopic parameters of R–T hard magnets, 146
optical properties of rare earth sodium double molybdates $Na_5RE(MoO_4)_4$, RE = Pr, Nd, Eu, 178
Crystalline electric field
neutron spectroscopy in $RBa_2Cu_3O_x$ (R = Ho, Er; $6 < x \leqslant 7$) compounds, 138
Crystal splitting
the electronic structure of organometallic complexes of the f elements. XXXVI. Parameterization of the crystal field splitting pattern of $(CH_3OCH_2CH_2C_5H_4)_3Sm$, 87
Crystal structure
crystal structure and short range oxygen defects in La- and Nd-modified ZrO_2, 174
the influence of organic cations on the anionic structure of complex water containing lanthanide chlorides, 189
crystal structure and hydriding behavior of $LaNi_{5-y}Sn_y$, 372
crystal structure of two neodymium complexes with amino acids: $\{[Nd_2(cystine)_2(OH_2)_8](ClO_4)_6 \cdot 3H_2O\}_n$ and $[Nd_2(phenylalanine)_4(OH_2)_8](ClO_4)_6 \cdot H_2O$, 400
Cubic crystals of $Na[UO_2(CH_3COO)_3]$
time-resolved chiroptical luminescence spectra of UO_2^{2+} in cubic $Na[UO_2(CH_3COO)_3]$ crystals: evidence for circular dichroic self-absorption, 62
Cubic elpasolite system
non-resonant energy transfer from the $^5D_4$ level of Tb^{3+} to the $^5D_0$ level of Eu, 83
Cubic lattice
fourth-order contributions to the $^8S_{7/2} \rightarrow {}^6I_{17/2}$ two-photon transition of Gd^{3+} in a cubic lattice, 102
Δ-[Co(*trans*-1,2-Cyclohexanediamine)$_3$]$^{3+}$
chirality-dependent excited-state quenching of $Eu(dpa)_3^{3-}$ and $Tb(dpa)_3^{3+}$ luminophores by diastereomeric structures of Δ-[Co(*trans*-1,2-cyclohexanediamine)$_3$]$^{3+}$ in aqueous solution, 55

Decomposition
effect of atmosphere on decomposition of rare earth oxide-activated barium titanyl oxalate, 440
Defects
microstructural study of rare earth intermetallic single crystals by transmission electron microscopy, 321
Diiminophosphinate complexes
rare earth complexes with heteroallylic ligands and their use as precursors for lanthanide-based homogeneous catalysts, 182
β-Diketonates
structural and photophysical properties of europium(III) mixed complexes with β-diketonates and *o*-phenanthroline, 107
Diphosphate
optical properties of Tb^{3+} in the diphosphate $CsYP_2O_7$, 99
Ductile pipe
a study of the microstructure and properties of continuous casting rare earth ductile iron pipes, 383
Dysprosium
the use of gadolinium and dysprosium chelate complexes as contrast agents for magnetic resonance imaging, 14

EDX and diffractograms
nanoanalytical characterization of $Pr_{0.5}Tb_{0.5}O_x$ obtained from *in situ* video observation in the high resolution electron microscope, 416
Electrical resistivity
effect of pressure on the electrical resistivity of the heavy fermion $CeAl_3$, 263
electrical resistance of amorphous and crystalline $CeCu_6$ under high pressure, 267
intermediate valence state of CeNi single crystal at high pressure, 275
effect of pressure on the electrical resistivity of $CePtSi_2$, 278
Electrical transport
magnetoresistance in actinide and lanthanide intermetallics, 249
Electronic energy level
electronic energy level structure of Tb^{3+} in $LiYF_4$, 69
Electronic properties
the electronic properties of Ce in $CeFe_4P_{12}$, 161
Electronic structure
the electronic structure of organometallic complexes of the f elements. XXXVI. Parameterization of the crystal field splitting pattern of $(CH_3OCH_2CH_2C_5H_4)_3Sm$, 87
Energy levels
non-resonant energy transfer from the $^5D_4$ level of Tb^{3+} to the $^5D_0$ level of Eu, 83
rare earth energy levels and magnetic properties of $DyPO_4$, 165
Entropy
entropy change at the ferromagnetic–antiferromagnetic transition in the intermetallic compound $Ce(Fe_{0.8}Co_{0.2})_2$, 300

$Eu(dpa)_3^{3-}$ complexes
the determination of chiroptical dissymmetry factors and electric- *vs.* magnetic-dipole transition amplitude ratios from circularly polarized excitation and emission measurements on racemic $Eu(dpa)_3^{3-}$ in aqueous solution, 59
EuODA
magnetic circular dichroism for generating crystal wave functions, 51
Europium
spectroscopic study of Eu^{3+} in the fluorapatite $Sr_{10}F_2(PO_4)_6$, 94
valence fluctuation and its effect on the synthesis, structure and properties of compounds, 436
Europium(III) mixed complexes
structural and photophysical properties of europium(III) mixed complexes with β-diketonates and *o*-phenanthroline, 107
Exchange interactions
neutron spectroscopy in $RBa_2Cu_3O_x$ ($R = Ho$, Er; $6 < x \leqslant 7$) compounds, 138
microscopic parameters of R–T hard magnets, 146
Excitation
organic complexes of Eu^{3+} supported in functionalized silica gel: highly luminescent material, 454
Excited-state absorption
application of energy upconversion spectroscopy to novel laser and phosphor design, 33
Excited triplet energy level
effects of the structure of ligands and their Ln^{3+} complexes on the luminescence of the central Ln^{3+} ions, 112

Ferrimagnetism
neutron diffraction study of the ferrimagnetic structures of RFe_3Al_7 compounds with R = Tb, Dy, Ho, Er, Tm, 311
Ferromagnetic–antiferromagnetic transition
entropy change at the ferromagnetic–antiferromagnetic transition in the intermetallic compound $Ce(Fe_{0.8}Co_{0.2})_2$, 300
Ferromagnetism
investigation of the role of Ce atoms in the $CeFe_2$ system, 297
Fluorapatite
spectroscopic study of Eu^{3+} in the fluorapatite $Sr_{10}F_2(PO_4)_6$, 94
Fluorescence
synthesis, characterization and luminescent properties of Eu^{III} and Tb^{III} fluorescent chelates used as label in medical immunoassays, 29
complexation of lanthanide ions by diethylenetriamine-*N*,*N*′,*N*″-penta-β-propionate, 465
Fluorides
investigation of charge transfer $O^{2-} \rightarrow Ln^{3+}$ and $F^- \rightarrow Ln^{3+}$ in LaF_3:(Ln^{3+}, O^{2-}) and YF_3:(Ln^{3+},O^{2-}) systems, 120
Fluoroimmunoassay
synthesis, characterization and luminescent properties of Eu^{III} and Tb^{III} fluorescent chelates used as label in medical immunoassays, 29

Gadolinium
the use of gadolinium and dysprosium chelate complexes as contrast agents for magnetic resonance imaging, 14
molecular sieve based MRI contrast agents, 25
Gallium
strongly enhanced paramagnetism in $CeNi_{5-x}Ga_x$ and $LaNi_3Ga_2$, 241
Garnet hosts
comparative correlation crystal field analysis of Er^{3+} ($4f^{11}$) in garnet hosts, 74
Garnets
synthesis and characterization of charge-substituted garnets $YCaLnGa_5O_{12}$ (Ln = Ce, Pr, Tb), 432
Gd^{3+}
Gd^{3+} chelates of interest in magnetic resonance imaging (MRI): studies using ^{17}O NMR and EPR at several magnetic fields, 20
Gibbs free energy
thermodynamic assessment of Fe–Tb and Fe–Dy phase diagrams and prediction of Fe–Tb–Dy phase diagram, 449

Hard magnets
microscopic parameters of R–T hard magnets, 146
Heat capacity
interpretation of the magnetic specific heat of oxygen deficient and doped $NdBa_2Cu_3O_x$ and $DyBa_2Cu_3O_x$ compounds, 213
anomalous field dependent heat capacity in UPt_3 below 1 K, 337
Heavy fermions
systematics on the cerium magnetic transformations induced by alloying, 229
effect of pressure on the electrical resistivity of the heavy fermion $CeAl_3$, 263
electrical resistance of amorphous and crystalline $CeCu_6$ under high pressure, 267
effect of pressure on the magnetoresistance of $CeInCu_2$, 271
solidification study of vertical float zoned $CeCu_2Si_2$, 325
Heteroallylic ligands
rare earth complexes with heteroallylic ligands and their use as precursors for lanthanide-based homogeneous catalysts, 182
High pressure
effect of pressure on the electrical resistivity of the heavy fermion $CeAl_3$, 263
electrical resistance of amorphous and crystalline $CeCu_6$ under high pressure, 267
effect of pressure on the magnetoresistance of $CeInCu_2$, 271
intermediate valence state of CeNi single crystal at high pressure, 275
effect of pressure on the electrical resistivity of $CePtSi_2$, 278
X-Ray diffraction study of $YbInCu_4$ at high pressure, 282
High pressure synthesis
valence fluctuation and its effect on the synthesis, structure and properties of compounds, 436
High T_c superconductors
rare earth crystal field spectroscopy by neutron magnetic scattering: from xenotime to high T_c superconductors, 153
High temperature superconductivity
neutron spectroscopy in $RBa_2Cu_3O_x$ ($R = Ho$, Er; $6 < x \leqslant 7$) compounds, 138
phase diagram and phase separation in $La_{2-x}Sr_xCuO_{4+\delta}$, 206

Holmium
magnetoresistance studies of spin-slip transitions in single crystal holmium, 304
Homogeneous catalysis
rare earth complexes with heteroallylic ligands and their use as precursors for lanthanide-based homogeneous catalysts, 182
Hydration
mean molal activity coefficients of aqueous rare earth bromide solutions at 25 °C, 468
Hydriding behaviour
crystal structure and hydriding behavior of $LaNi_{5-y}Sn_y$, 372

Inductively coupled plasma atomic emission spectrometry
application of ICP AES to the determination of REE in Egypt's black sand deposits, 482
Inelastic magnetic neutron scattering
microscopic parameters of R–T hard magnets, 146
In situ electrical resistance
valence fluctuation and its effect on the synthesis, structure and properties of compounds, 436
Intensities
synthesis, spectroscopy and photophysical properties of mixed ligand complexes of europium(III) and terbium(III), 457
Intercalation studies
intercalation studies of several layered lanthanide oxychlorides with pyridine, 427
Intermediate phases
structures and structural defects in colloidal particles altered *in situ* in HREM, 420
Intermediate valence
systematics on the cerium magnetic transformations induced by alloying, 229
change of the Yb valence in Yb–TM–Al compounds, 333
Intermediate valence state
intermediate valence state of CeNi single crystal at high pressure, 275
Intermetallic compounds
entropy change at the ferromagnetic–antiferromagnetic transition in the intermetallic compound $Ce(Fe_{0.8}Co_{0.2})_2$, 300
atomic distribution in RFe_xAl_{12-x} compounds with R = Tb, Dy, Ho, Er, Tm and Fe concentrations $x \approx 5$ studied by neutron diffraction, 316
Intermetallics
anisotropy of magnetism in actinide and lanthanide intermetallics, 221
neutron diffraction study of the ferrimagnetic structures of RFe_5Al_7 compounds with R = Tb, Dy, Ho, Er, Tm, 311
Iodine
the influence of lithium intercalation and iodine on the electrical properties of the superconductor $Nd_{1.82}Ce_{0.18}CuO_y$, 307
Iron
investigation of the role of Ce atoms in the $CeFe_2$ system, 297
Itaconate
stability constants of rare earth complexes: citraconate, mesaconate and itaconate complex species, 473

$K_2LaX_5:Er^{3+}$
upconversion luminescence in $K_2LaX_5:Er^{3+}$ (X = Cl, Br), 128

Kinetic parameters
NMR study of chemical species extracted and ligand-exchange reaction in the lanthanide(III)$(NO_3)_3$–CMPO system, 477
Kondo effect
4f-conduction electron hybridization in ternary Ce–TM–Al compounds, 329
change of the Yb valence in Yb–TM–Al compounds, 333

Lamp phosphor
reaction mechanism for the solid state synthesis of $LaPO_4$:Ce,Tb phosphor, 406
Lanthana
characterization of silica dispersed lanthana by CO_2 adsorption, 201
Lanthanide chelates
complexation of lanthanide ions by diethylenetriamine-*N*,*N*′,*N*″-penta-β-propionate, 465
Lanthanide complex chlorides
the influence of organic cations on the anionic structure of complex water containing lanthanide chlorides, 189
Lanthanide complexes
effects of the structure of ligands and their Ln^{3+} complexes on the luminescence of the central Ln^{3+} ions, 112
Lanthanide compounds
fourth-order contributions to the $^8S_{7/2} \rightarrow {}^6I_{7/2}$ two-photon transition of Gd^{3+} in a cubic lattice, 102
the low temperature behavior of some light lanthanide RRhSb and RPdSb compounds, 237
Lanthanide(III) trifluoroacetates
pyrazine-*N*-oxide (pyzNO) complexes of lanthanide(III) trifluoroacetates (TFA), 461
Lanthanide ions
f-state luminescence of trivalent lanthanide and actinide ions in solution, 41
Lanthanide nitrates
NMR study of chemical species extracted and ligand-exchange reaction in the lanthanide(III)$(NO_3)_3$–CMPO system, 477
Lanthanides
application of energy upconversion spectroscopy to novel laser and phosphor design, 33
anisotropy of magnetism in actinide and lanthanide intermetallics, 221
light-metal base amorphous alloys containing lanthanide metal, 340
synthesis, spectroscopy and photophysical properties of mixed ligand complexes of europium(III) and terbium(III), 457
Lanthanum orthophosphate
reaction mechanism for the solid state synthesis of $LaPO_4$:Ce,Tb phosphor, 406
Lasers
application of energy upconversion spectroscopy to novel laser and phosphor design, 33
Lattice constant
X-Ray diffraction study of $YbInCu_4$ at high pressure, 282
Layered lanthanide oxychlorides
intercalation studies of several layered lanthanide oxychlorides with pyridine, 427
Ligand
effects of the structure of ligands and their Ln^{3+} complexes on the luminescence of the central Ln^{3+} ions, 112

Ligand exchange reaction
NMR study of chemical species extracted and ligand-exchange reaction in the lanthanide(III)$(NO_3)_3$–CMPO system, 477
Light metals
light-metal base amorphous alloys containing lanthanide metal, 340
Lithium intercalation
the influence of lithium intercalation and iodine on the electrical properties of the superconductor $Nd_{1.82}Ce_{0.18}CuO_y$, 307
Ln–Fe–(Re,Mo) systems
magnetic properties and ^{57}Fe Mössbauer effect in the substoichiometric Ln–Fe–(Re,Mo) systems with the $ThMn_{12}$ structure, 285
Low temperature behaviour
the low temperature behavior of some light lanthanide RRhSb and RPdSb compounds, 237
Low temperatures
strongly enhanced paramagnetism in $CeNi_{5-x}Ga_x$ and $LaNi_3Ga_2$, 241
Low temperature synthesis
synthesis and characterization of charge-substituted garnets $YCaLnGa_3O_{12}$ (Ln = Ce, Pr, Tb), 432
Luminescence
f-state luminescence of trivalent lanthanide and actinide ions in solution, 41
effects of the structure of ligands and their Ln^{3+} complexes on the luminescence of the central Ln^{3+} ions, 112
investigation of charge transfer $O^{2-} \rightarrow Ln^{3+}$ and $F^- \rightarrow Ln^{3+}$ in LaF_3:(Ln^{3+}, O^{2-}) and YF_3:(Ln^{3+}, O^{2-}) systems, 120
upconversion luminescence in K_2LaX_5:Er^{3+} (X = Cl, Br), 128
the influence of lithium intercalation and iodine on the electrical properties of the superconductor $Nd_{1.82}Ce_{0.18}CuO_y$, 307
organic complexes of Eu^{3+} supported in functionalized silica gel: highly luminescent material, 454
organic complexes of Eu^{3+} supported in functionalized silica gel: highly luminescent material, 454
Luminescent properties
dye laser excitation and crystal field calculation of the "non-garnet" site in (YGG) $Y_3Ga_5O_{12}$:Pr, 90

Magnetic anisotropy
anisotropy of magnetism in actinide and lanthanide intermetallics, 221
magnetization and time dependent effects in $ErCo_3Ga_2$, 294
Magnetic circular dichroism
magnetic circular dichroism for generating crystal wave functions, 51
Magnetic fields
high field magnetic investigations of the $UFe_{10-x}Ni_xSi_2$ system, 290
anomalous field dependent heat capacity in UPt_3 below 1 K, 337
Magnetic materials
selection of magnetic materials for an active magnetic regenerative refrigerator, 366
Magnetic measurements
high field magnetic investigations of the $UFe_{10-x}Ni_xSi_2$ system, 290
Magnetic ordering
interpretation of the magnetic specific heat of oxygen deficient and doped $NdBa_2Cu_3O_x$ and $DyBa_2Cu_3O_x$ compounds, 213
systematics on the cerium magnetic transformations induced by alloying, 229
neutron diffraction study of the ferrimagnetic structures of RFe_5Al_7 compounds with R = Tb, Dy, Ho, Er, Tm, 311
4f-conduction electron hybridization in ternary Ce–TM–Al compounds, 329
change of the Yb valence in Yb–TM–Al compounds, 333
Magnetic phase diagram
complex antiferromagnetic order of CeCuSn, 245
Magnetic properties
rare earth energy levels and magnetic properties of $DyPO_4$, 165
magnetic properties of TbNiAl, 254
magnetic properties of novel R_2BaCoO_5 oxides (R = Pr, Nd, Ho), 257
magnetic properties and ^{57}Fe Mössbauer effect in the substoichiometric Ln–Fe–(Re,Mo) systems with the $ThMn_{12}$ structure, 285
Magnetic regenerators
active and passive magnetic regenerators in gas/magnetic refrigerators, 355
Magnetic resonance imaging
the use of gadolinium and dysprosium chelate complexes as contrast agents for magnetic resonance imaging, 14
Gd^{3+} chelates of interest in magnetic resonance imaging (MRI): studies using ^{17}O NMR and EPR at several magnetic fields, 20
Magnetic transition
magnetic transition in thin wire of rare earth metals, 386
Magnetization
magnetization and time dependent effects in $ErCo_3Ga_2$, 294
Magnetoresistance
magnetoresistance in actinide and lanthanide intermetallics, 249
effect of pressure on the magnetoresistance of $CeInCu_2$, 271
magnetoresistance studies of spin-slip transitions in single crystal holmium, 304
Magnetorestriction
effect of heat treatment on the magnetostriction and microstructure of Terfenol-D, 390
Many-body
the relationship between perturbation theory and direct calculations of rare earth transition intensities, 78
Mesaconate
stability constants of rare earth complexes: citraconate, mesaconate and itaconate complex species, 473
Metallic glasses
synthesis and properties of aluminum-based metallic glasses containing rare earths, 349
Metal matrix composites
metal matrix composites produced from yttrium based or high yttrium content alloys, 362
Metal nitrides
preparation of CeN by reaction of Ce with a N_2–H_2 mixture, 409
Microstructure
solidification study of vertical float zoned $CeCu_2Si_2$, 325
effect of heat treatment on the magnetostriction and microstructure of Terfenol-D, 390

Mixed oxides
study of the reduction/reoxidation cycle in a La/Ce/Tb mixed oxide, 196
structures and structural defects in colloidal particles altered *in situ* in HREM, 420
Mixed praseodymium
structures and structural defects in colloidal particles altered *in situ* in HREM, 420
Mixed-valent mixed oxides
nanoanalytical characterization of $Pr_{0.5}Tb_{0.5}O_x$ obtained from *in situ* video observation in the high resolution electron microscope, 416
Molecular sieves
molecular sieve based MRI contrast agents, 25
Mössbauer effect
magnetic properties and ^{57}Fe Mössbauer effect in the substoichiometric Ln–Fe–(Re,Mo) systems with the $ThMn_{12}$ structure, 285
MRI contrast agents
molecular sieve based MRI contrast agents, 25

Nanoanalysis
nanoanalytical characterization of $Pr_{0.5}Tb_{0.5}O_x$ obtained from *in situ* video observation in the high resolution electron microscope, 416
Neodymium
variable temperature optoacoustic studies of 4f-states of neodymium in oxide phases, 115
Neodymium complexes
crystal structure of two neodymium complexes with amino acids: $\{[Nd_2(cystine)_2(OH_2)_8](ClO_4)_6 \cdot 3H_2O\}_n$ and $[Nd_2(phenylalanine)_4(OH_2)_8](ClO_4)_6 \cdot H_2O$, 400
Neutron diffraction
neutron diffraction study of the ferrimagnetic structures of RFe_5Al_7 compounds with R = Tb, Dy, Ho, Er, Tm, 311
atomic distribution in RFe_xAl_{12-x} compounds with R = Tb, Dy, Ho, Er, Tm and Fe concentrations $x \approx 5$ studied by neutron diffraction, 316
Neutron magnetic scattering
rare earth crystal field spectroscopy by neutron magnetic scattering: from xenotime to high T_c superconductors, 153
Neutron scattering
neutron scattering studies of Yb-bearing silicate glasses, 170
Neutron spectroscopy
neutron spectroscopy in $RBa_2Cu_3O_x$ (R = Ho, Er; $6 < x \leq 7$) compounds, 138
Nickel
high field magnetic investigations of the $UFe_{10-x}Ni_xSi_2$ system, 290
Non-garnet site
dye laser excitation and crystal field calculation of the "non-garnet" site in (YGG) $Y_3Ga_5O_{12}$:Pr, 90
Nuclear magnetic resonance
NMR study of chemical species extracted and ligand-exchange reaction in the lanthanide(III)$(NO_3)_3$–CMPO system, 477

^{17}O NMR
Gd^{3+} chelates of interest in magnetic resonance imaging (MRI): studies using ^{17}O NMR and EPR at several magnetic fields, 20
Optical properties
optical properties of rare earth sodium double molybdates $Na_5RE(MoO_4)_4$, RE = Pr, Nd, Eu, 178
Optical spectroscopy
electronic energy level structure of Tb^{3+} in $LiYF_4$, 69
ultrasensitive optical spectroscopy of rare earth solids, 133
Optoacoustic studies of 4f states
variable temperature optoacoustic studies of 4f-states of neodymium in oxide phases, 115
Organolanthanides
rare earth complexes with heteroallylic ligands and their use as precursors for lanthanide-based homogeneous catalysts, 182
Organometallics
the electronic structure of organometallic complexes of the f elements. XXXVI. Parameterization of the crystal field splitting pattern of $(CH_3OCH_2CH_2C_5H_4)_3Sm$, 87
Osmotic coefficients
mean molal activity coefficients of aqueous rare earth bromide solutions at 25 °C, 468
Oxidation
study of the reduction/reoxidation cycle in a La/Ce/Tb mixed oxide, 196
Oxidation state
the oxidation state of cerium in Ce_2MoO_6, 444
Oxide phases
variable temperature optoacoustic studies of 4f-states of neodymium in oxide phases, 115
Oxides
magnetic properties of novel R_2BaCoO_5 oxides (R = Pr, Nd, Ho), 257
Oxygen defects
crystal structure and short range oxygen defects in La- and Nd-modified ZrO_2, 174
Oxygen traces
investigation of charge transfer $O^{2-} \rightarrow Ln^{3+}$ and $F^- \rightarrow Ln^{3+}$ in LaF_3:(Ln^{3+}, O^{2-}) and YF_3:(Ln^{3+}, O^{2-}) systems, 120
Oxynitrates
comparative study of the crystal field effects in rare earth oxynitrates, 65

Paramagnetic response
rare earth energy levels and magnetic properties of $DyPO_4$, 165
Paramagnetism
strongly enhanced paramagnetism in $CeNi_{5-x}Ga_x$ and $LaNi_3Ga_2$, 241
Perfusion imaging
the use of gadolinium and dysprosium chelate complexes as contrast agents for magnetic resonance imaging, 14
Phase diagrams
phase diagram and phase separation in $La_{2-x}Sr_xCuO_{4+\delta}$, 206
thermodynamic assessment of Fe–Tb and Fe–Dy phase diagrams and prediction of Fe–Tb–Dy phase diagram, 449
Phase separations
phase diagram and phase separation in $La_{2-x}Sr_xCuO_{4+\delta}$, 206
o-Phenanthroline
structural and photophysical properties of europium(III) mixed complexes with β-diketonates and *o*-phenanthroline, 107
Phosphate
spectroscopic study of Eu^{3+} in the fluorapatite $Sr_{10}F_2(PO_4)_6$, 94

Phosphor
application of energy upconversion spectroscopy to novel laser and phosphor design, 33
Photoluminescence
spectroscopic study of Eu^{3+} in the fluorapatite $Sr_{10}F_2(PO_4)_6$, 94
optical properties of Tb^{3+} in the diphosphate $CsYP_2O_7$, 99
Platinum/aluminum catalyst
effect of rare earth additives on the properties of the platinum/alumina catalyst, 393
Polishing compounds
cerium-based polishing compounds: discovery to manufacture, 377
Praseodymium
exploring the black oxide of praseodymium, 1
Praseodymium-terbium oxides
nanoanalytical characterization of $Pr_{0.5}Tb_{0.5}O_x$ obtained from *in situ* video observation in the high resolution electron microscope, 416
Preparation
the influence of organic cations on the anionic structure of complex water containing lanthanide chlorides, 189
Pr^{IV}
synthesis and characterization of charge-substituted garnets $YCaLnGa_5O_{12}$ (Ln = Ce, Pr, Tb), 432
Pyrazine-*N*-oxide complexes
pyrazine-*N*-oxide (pyzNO) complexes of lanthanide(III) trifluoroacetates (TFA), 461
Pyridine
intercalation studies of several layered lanthanide oxychlorides with pyridine, 427

Rare earths
the relationship between perturbation theory and direct calculations of rare earth transition intensities, 78
a study of the microstructure and properties of continuous casting rare earth ductile iron pipes, 383
Rare earth additives
effect of rare earth additives on the properties of the platinum/alumina catalyst, 393
Rare earth crystal field spectroscopy
rare earth crystal field spectroscopy by neutron magnetic scattering: from xenotime to high T_c superconductors, 153
Rare earth cyanides
on the rare-earth cyanides $Ln[T(CN)_6]_{3/4} \cdot nH_2O$ (T = Fe, Ru), 192
Rare earth iron aluminium
neutron diffraction study of the ferrimagnetic structures of RFe_5Al_7 compounds with R = Tb, Dy, Ho, Er, Tm, 311
atomic distribution in RFe_xAl_{12-x} compounds with R = Tb, Dy, Ho, Er, Tm and Fe concentrations $x \approx 5$ studied by neutron diffraction, 316
Rare earth metals
magnetic transition in thin wire of rare earth metals, 386
Rare earth modified zirconia
crystal structure and short range oxygen defects in La- and Nd-modified ZrO_2, 174
Rare earth molybdates
optical properties of rare earth sodium double molybdates $Na_5RE(MoO_4)_4$, RE = Pr, Nd, Eu, 178
Rare earth oxides
effect of atmosphere on decomposition of rare earth oxide-activated barium titanyl oxalate, 440
Rare earth oxynitrates
comparative study of the crystal field effects in rare earth oxynitrates, 65
Rare earth solids
ultrasensitive optical spectroscopy of rare earth solids, 133
Reduction
study of the reduction/reoxidation cycle in a La/Ce/Tb mixed oxide, 196
Refrigerators
active and passive magnetic regenerators in gas/magnetic refrigerators, 355
Regenerative refrigerator
selection of magnetic materials for an active magnetic regenerative refrigerator, 366

Silica matrix
characterization of silica dispersed lanthana by CO_2 adsorption, 201
Single crystals
magnetoresistance studies of spin-slip transitions in single crystal holmium, 304
microstructural study of rare earth intermetallic single crystals by transmission electron microscopy, 321
Single video frame HREM analysis
nanoanalytical characterization of $Pr_{0.5}Tb_{0.5}O_x$ obtained from *in situ* video observation in the high resolution electron microscope, 416
Site occupation
atomic distribution in RFe_xAl_{12-x} compounds with R = Tb, Dy, Ho, Er, Tm and Fe concentrations $x \approx 5$ studied by neutron diffraction, 316
Solid state reaction
reaction mechanism for the solid state synthesis of $LaPO_4$:Ce,Tb phosphor, 406
Spectroscopy
synthesis, spectroscopy and photophysical properties of mixed ligand complexes of europium(III) and terbium(III), 457
Spin dependent scattering
magnetoresistance in actinide and lanthanide intermetallics, 249
Spin-slip transitions
magnetoresistance studies of spin-slip transitions in single crystal holmium, 304
Stability constants
stability constants of rare earth complexes: citraconate, mesaconate and itaconate complex species, 473
Strontium
spectroscopic study of Eu^{3+} in the fluorapatite $Sr_{10}F_2(PO_4)_6$, 94
Structure
effects of the structure of ligands and their Ln^{3+} complexes on the luminescence of the central Ln^{3+} ions, 112
Substitution
on the rare-earth cyanides $Ln[T(CN)_6]_{3/4} \cdot nH_2O$ (T = Fe, Ru), 192
Superconductivity
the influence of lithium intercalation and iodine on the electrical properties of the superconductor $Nd_{1.82}Ce_{0.18}CuO_y$, 307

Tb^{IV}
synthesis and characterization of charge-substituted garnets $YCaLnGa_5O_{12}$ (Ln = Ce, Pr, Tb), 432

TbNiAl
magnetic properties of TbNiAl, 254
Terbium
optical properties of Tb^{3+} in the diphosphate $CsYP_2O_7$, 99
valence fluctuation and its effect on the synthesis, structure and properties of compounds, 436
Terbium oxides
structures and structural defects in colloidal particles altered *in situ* in HREM, 420
Terfenol
effect of heat treatment on the magnetostriction and microstructure of Terfenol-D, 390
thermodynamic assessment of Fe–Tb and Fe–Dy phase diagrams and prediction of Fe–Tb–Dy phase diagram, 449
Ternary rare-earth halides
upconversion luminescence in $K_2LaX_5:Er^{3+}$ (X=Cl, Br), 128
Thermodynamics
thermodynamic assessment of Fe–Tb and Fe–Dy phase diagrams and prediction of Fe–Tb–Dy phase diagram, 449
Thin wire
magnetic transition in thin wire of rare earth metals, 386
Time-dependent effects
magnetization and time dependent effects in $ErCo_3Ga_2$, 294
Time-resolved chiroptical luminescence
time-resolved chiroptical luminescence spectra of UO_2^{2+} in cubic $Na[UO_2(CH_3COO)_3]$ crystals: evidence for circular dichroic self-absorption, 62
Transitions
the relationship between perturbation theory and direct calculations of rare earth transition intensities, 78
Transmission electron microscopy
microstructural study of rare earth intermetallic single crystals by transmission electron microscopy, 321
Trivalent
the oxidation state of cerium in Ce_2MoO_6, 444
Trivalent lanthanides
investigation of charge transfer $O^{2-} \rightarrow Ln^{3+}$ and $F^- \rightarrow Ln^{3+}$ in $LaF_3:(Ln^{3+}, O^{2-})$ and $YF_3:(Ln^{3+},O^{2-})$ systems, 120
Two-photon
the relationship between perturbation theory and direct calculations of rare earth transition intensities, 78
Two-photon transitions
fourth-order contributions to the ${}^8S_{7/2} \rightarrow {}^6I_{17/2}$ two-photon transition of Gd^{3+} in a cubic lattice, 102

Upconversion
application of energy upconversion spectroscopy to novel laser and phosphor design, 33
upconversion luminescence in $K_2LaX_5:Er^{3+}$ (X=Cl, Br), 128
UTX compounds
magnetoresistance in actinide and lanthanide intermetallics, 249

Vacuum UV
investigation of charge transfer $O^{2-} \rightarrow Ln^{3+}$ and $F^- \rightarrow Ln^{3+}$ in $LaF_3:(Ln^{3+}, O^{2-})$ and $YF_3:(Ln^{3+},O^{2-})$ systems, 120
Valence fluctuation
valence fluctuation and its effect on the synthesis, structure and properties of compounds, 436
Valence transition
on the rare-earth cyanides $Ln[T(CN)_6]_{3/4} \cdot nH_2O$ (T=Fe, Ru), 192
Vertical float zoning
solidification study of vertical float zoned $CeCu_2Si_2$, 325

Water exchange
Gd^{3+} chelates of interest in magnetic resonance imaging (MRI): studies using ^{17}O NMR and EPR at several magnetic fields, 20

Xenotime
rare earth crystal field spectroscopy by neutron magnetic scattering: from xenotime to high T_c superconductors, 153
X-Ray diffraction
X-Ray diffraction study of $YbInCu_4$ at high pressure, 282
crystal structure and hydriding behavior of $LaNi_{5-y}Sn_y$, 372
$Eu_{14}MnSb_{11}$, a novel rare earth metal Zintl compound, 424

$Y_3Ga_5O_{12}:Pr^{3+}$
dye laser excitation and crystal field calculation of the "non-garnet" site in (YGG) $Y_3Ga_5O_{12}$:Pr, 90
Yb-bearing silicate glasses
neutron scattering studies of Yb-bearing silicate glasses, 170
Yb compounds
change of the Yb valence in Yb–TM–Al compounds, 333
Yttrium
application of ICP AES to the determination of REE in Egypt's black sand deposits, 482
Yttrium-based alloys
metal matrix composites produced from yttrium based or high yttrium content alloys, 362

Zeolite reforming catalyst
a study of platinum–dysprosium–KL zeolite reforming catalyst, 397
Zintl compounds
$Eu_{14}MnSb_{11}$, a novel rare earth metal Zintl compound, 424